

Figure 1

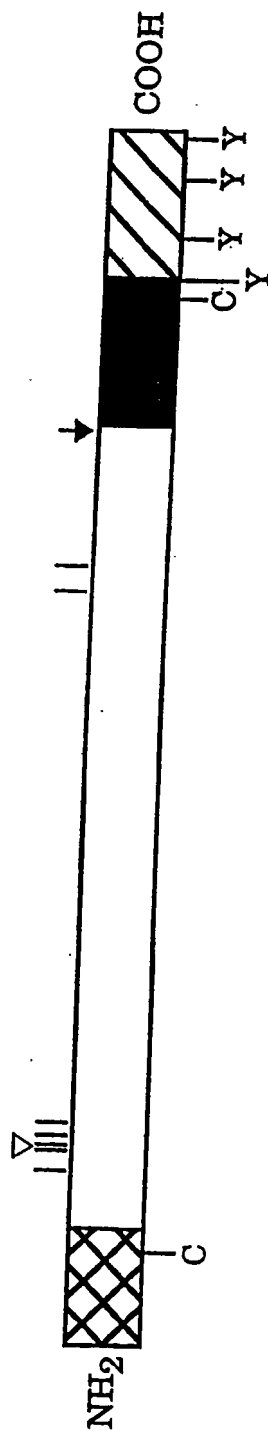


Figure 2

| | | | |
|-----------------|---|---|----|
| {Hu-Syndecan-1} | 1 |pqivatnlppEDqdGsgDDsDnFfsgsGaGaLqdittlsqqtPstwk | 50 |
| {Rt-Syndecan-1} | |pqivtanvppEDqdGsgDDsDnFfsgsgtGaLpdmtilsrqtPstwk | |
| {Mu-Syndecan-1} | |pqivavnvppEDqdGsgDDsDnFfsgsgtGalpdmtlsrqtPstwk | |
| {Ch-Syndecan-1} | |pqivtnvppEDqdGsgDDsDnFfsgsgtGalpd.tlsrqtPstwk | |
| {Hu-Syndecan-4} | |yfsгалpDdEDvvGpgqESDdFelsGsgdLddledsmigpevvhp | |
| {RT-Syndecan-4} | |YfsgгалpDdEDaggleqDSD.FelsGsgdLddteeptrtfpevisp | |
| {CH-Syndecan-3} | |rpvdlegsgDDDPfGddElcdiYsgsgGyFegesgletavsltt | |
| {HU-Syndecan-2} | | ...dmyldnssieEasgvypiddDbyaSaSGG...adedvesPelttt | |
| {RT-Syndecan-2} | | ...dmyldsssieEasglypidDdDySSaSGG...ayedkgsPdlttts | |
| {MU-Syndecan-2} | | ...dmyldnssieEasgvypiddDdDySSaSGG...adediesPvltts | |
| {Fr-Syndecan-2} | |yidst...EssgnypvDDdDySSgsgGipargddedenvvlttv | |

| | | | |
|--------------------|---|--|-----|
| | 1 | | 40 |
| Murine Syndecan-1 | MRRAALWLWL CALALRLQPA LPQIVaVNVP PEDQDGSgDD | | |
| Rat Syndecan-1 | MRRAALWLWL CALALRLQPA LPQIVtaNVP PEDQDGSgDD | | |
| Hamster Syndecan-1 | MRRAALWLWL CALALRLPQv LPQIVtVNVP PEDQDGSgDD | | |
| Human Syndecan-1 | MRRAALWLWL CALALsLQIA LPQIVatNIP PEDQDGSgDD | | |
| | 41 | | 80 |
| Murine Syndecan-1 | SDNFSGSGTG ALPD.TLSRQ TPSTWKDVWL LTATPTAPEP | | |
| Rat Syndecan-1 | SDNFSGSGTG ALPDmTLSRQ TPSTWKDVWL LTATPTAPEP | | |
| Hamster Syndecan-1 | SDNFSGSGTG ALPDITLSRQ aspTlKDVWL LTATPTAPEP | | |
| Human Syndecan-1 | SDNFSGSGaG ALqDITLSqQ TPSTWKDtql LTAiPTsPEP | | |
| | 81 | | 120 |
| Murine Syndecan-1 | TSsntEtaFT SVLPAGEKPE EGEpVLHVEa EPGFTARDKE | | |
| Rat Syndecan-1 | TSRDtEAtLT SILPAGEKPE EGEpVaHVEa EPdFTARDKE | | |
| Hamster Syndecan-1 | TSRDaqAttT SILPAaEKPG EGEpVLtaEv EPGFTARDKE | | |
| Human Syndecan-1 | TglEatAasT StLPAGEgPk EGEaVvlpEv EPGLTAR..E | | |
| | 121 | | 160 |
| Murine Syndecan-1 | KEvTTRPRET vQLPITqrAS T.vRVTTAQA aVTSHPHggm | | |
| Rat Syndecan-1 | KEaTTRPRET TQLPVTqqAS TaARATTAQA sVTSHPHgDv | | |
| Hamster Syndecan-1 | sEvTTRPRET TQLlITHwvS T.ARATTAQA PVTSHPHrDv | | |
| Human Syndecan-1 | qEatpRPRET TQLPtThqAS Ttt.ATTAQe PaTSHPHrDm | | |
| | 161 | | 200 |
| Murine Syndecan-1 | QPGLHETSAP TAPGQPDHQP PrVEgGGTSV IKEVvEDGta | | |
| Rat Syndecan-1 | QPGLHETlAP TAPGQPDHQP PSVEDGGTSV IDEVvEDetT | | |
| Hamster Syndecan-1 | QPGLHETSAP TAPGQPDqQp PS...GGTSV IKEVaEDGaT | | |
| Human Syndecan-1 | QPghHETStP agPsQadlht PhtEDGGpSa teraaEDGas | | |
| | 201 | | 240 |
| Murine Syndecan-1 | NQLPAGEGSG EQDFTFETSG ENTAVAAVEP gLRNqPvDE | | |
| Rat Syndecan-1 | NQLPAGEGSG EQDFTFETSG ENTAVAgVEP DLRNqSPVDE | | |
| Hamster Syndecan-1 | NQLPtGEGSG EQDFTFETSG ENTAVAAVEP DqRNQSPVDE | | |
| Human Syndecan-1 | sQLPAaEGSG EQDFTFETSG ENTAVvAVEP DrRNQSPVDq | | |
| | 241 | | 280 |
| Murine Syndecan-1 | GATGASQsLL DRKEVLGGVI AGGLVGLIFA VCLVaFmLYR | | |
| Rat Syndecan-1 | GATGASQGLL DRKEVLGGVI AGGLVGLIFA VCLVaFmLYR | | |
| Hamster Syndecan-1 | GATGASQGLL DRKEVLGGVI AGGLVGLIFA VCLVgFmLYR | | |
| Human Syndecan-1 | GATGASQGLL DRKEVLGGVI AGGLVGLIFA VCLVgFmLYR | | |
| | 281 | | 313 |
| Murine Syndecan-1 | MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA | | |
| Rat Syndecan-1 | MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA | | |
| Hamster Syndecan-1 | MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA | | |
| Human Syndecan-1 | MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA | | |

FIGURE 3

Examples of extracellular matrix molecules that bind to heparin/heparan sulfate and interact with cells via specific surface receptors

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|--------------------------------|------------------|----------------------|---------|
| ● Collagen types I, II, III, V | ● Tenascin | ● Fibronectin | ● SPARC |
| ● Laminin | ● Thrombospondin | ● Entactin (nidogen) | ● Wnt-1 |
| ● Vitronectin | ● Pleiotropin | | |

Examples of growth factors that bind to heparin/heparan sulfate and that interact with cells via specific surface receptors

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|---|--|
| ● Basic fibroblast growth factor (bFGF) | ● Platelet derived growth factor isoforms (PDGF) |
| ● Acidic fibroblast growth factor (aFGF) | ● Heparin-binding EGF-like growth factor (HB-EGF) |
| ● Keratinocyte growth factor (KGF) | ● Vascular endothelial growth factor isoforms (VEGF) (Vascular permeability factor, VPF) |
| ● hst/K-fgf | ● Transforming growth factor β isoforms (TGF- β) |
| ● Int-2 | ● Schwannoma-derived growth factor (amphiregulin) |
| ● FGF-5 | ● Interferon gamma |
| ● FGF-6 | ● Interleukin-3 |
| ● Hepatocyte growth factor (scatter factor) | ● Granulocyte-macrophage colony stimulating factor (GM-CSF) |

Examples of cell adhesion molecules that bind to heparin/heparan sulfate and that interact with cells via specific surface receptors

- Neural cell adhesion molecule (N-CAM)
- Platelet-endothelium cell adhesion molecule (PECAM)

Examples of lipid metabolism molecules that bind to heparin/heparan sulfate

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|---------------------------|------------------------|---------------------------|
| ● Apolipoprotein B (apoB) | ● Cholesterol esterase | ● Apolipoprotein E (apoE) |
| ● Triglyceride lipase | ● Lipoprotein lipase | |

Examples of degradative enzymes that bind to heparin/heparan sulfate

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|------------------------|--------------------------------------|
| ● Acetylcholinesterase | ● Extracellular superoxide dismutase |
|------------------------|--------------------------------------|

Examples of protease inhibitors that bind to heparin/heparan sulfate

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|--------------------|---|---|
| ● Thrombin | ● Heparin cofactor II | ● Factor Xa |
| ● Leuserpin | ● Tissue plasminogen activator | ● Plasminogen activator inhibitor-1 (PAI-1) |
| ● Antithrombin III | ● Lipoprotein-associated coagulation inhibitor (LACI) | |

Examples of proteins that bind to heparin/heparan sulfate or their relevant microbial pathogens

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|--|--|
| ● Glycoproteins C and B (gC and gB) of herpes simplex virus types I and II | ● Circumsporozoite protein of Plasmodium falciparum |
| ● Glycoprotein CII (gC-II) of cytomegalovirus | ● Adhesion protein of Trypanosoma gondii |
| ● Glycoprotein 120 (gp120) of human immunodeficiency virus | ● Adhesion proteins of Bordetella pertussis, Streptococcus pyogenes, and Staphylococcus aureus |

FIGURE 4